Physics and Physics Honors Equation Sheet

$v = \frac{\Delta x}{\Delta t}$	$\bar{v} = \frac{\Delta x}{\Delta t}$	$\Delta x = vt$	$x_f = vt + x_0$	$\Delta x = x_f - x_0$
$a = \frac{\Delta v}{\Delta t}$	$v_f = at + v_0$	$\Delta x = \frac{1}{2}at^2 + v_0 t$	$x_f = \frac{1}{2}at^2 + v_0 t + x_0$	
$v_f^2 = v_0^2 + 2a\Delta x$	$R = \frac{v_0^2}{g}\sin 2\theta$	$F = ma$	$F_g = mg$	$F_k = \mu_k F_N$
$F_s \le \mu_s F_N$	$F = kx$	$W = \Delta E$	$W = fd$	$E_{diss} = F\Delta x$
$W = \Delta E_g + \Delta E_{el} + \Delta E_k + \Delta E_{diss}$		$E_k = \frac{1}{2}mv^2$	$E_{el} = \frac{1}{2}kx^2$	$E_{el} = \frac{1}{2}k\left(x_2^2 - x_1^2\right)$
$E_g = mg\Delta h$	$P = \frac{E}{t}$	$p = mv$	$\Delta p = p' - p$	$F\Delta t = \Delta p = m\left(v_f - v_i\right)$
$F = \frac{\Delta p}{\Delta t}$	$m_1 v_1 + m_2 v_2 = m_1 v_1' + m_2 v_2'$	$Ft = m\Delta v$	$(m_1 + m_2)V_0 = m_1 v_{1F}' + m_2 v_{2F}'$	
$m_1 v_0 + m_2 v_0 = (m_1 + m_2)V_F$		$v = \frac{2\pi r}{T}$	$a_c = \frac{v^2}{r}$	$F_c = \frac{mv^2}{r}$
$F = k\frac{q_1 q_2}{d^2}$	$F = k\frac{q_1 q_2}{r^2}$	$E = \frac{F}{q}$	$E = \frac{kq}{d^2}$	$V = IR$
$\frac{1}{R_{ParallelTotal}} = \frac{1}{R_1} + \frac{1}{R_2} + \ldots + \frac{1}{R_n}$	$R_{SeriesTotal} = R_1 + R_2 + \ldots + R_n$	$F_g = G\frac{m_1 m_2}{r^2}$	$f = \frac{1}{T}$	
$T = \frac{1}{f}$	$v = f\lambda$	$\cos\theta = \frac{adjacent}{hypoteneuse}$	$\sin\theta = \frac{opposite}{hypoteneuse}$	
$\tan\theta = \frac{opposite}{adjacent}$	$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$	$k = 9.0\text{x}10^9 \ \frac{N \cdot m^2}{C^2}$	$G = 6.67 \text{ x } 10^{-11} \text{ N}\cdot\text{m}^2/\text{kg}^2$	
μ = micro-, or 10^{-6}	m = milli-, or 10^{-3}	electron charge = $1.60\text{x}10^{-19}$ C		